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ABSTRACT

Experiences working with nonverbal severely and profoundly retarded and multiply handicapped children are discussed in this paper. Alternative communication systems are reviewed, including use of manual signs, pictures and symbols, photographs, realistic drawings, pictograms, and Bliss Symbols. A model for teaching basic understanding of communication identifies several stages leading to symbolic languages: the resonance phenomenon (gestures based on the child's movements), co-active movement (movements through space leading to imitation), and non-representational reference (teaching the child increasingly more abstract ways of representation). Progressions are noted from the non-representational reference stage to use of a sequence or calendar box to chart the activities of the day. (CL)

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Title of paper:

Ways to Communicate with Children who are
Profoundly Mentally Retarded and cannot speak.

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Ways to Communicate with Children who are
Profoundly Mentally Retarded and cannot speak.

by
Dr. Heidemarie Adam

1. The problem

I have been teaching mentally retarded children for more than 15 years. Since my school is part of a large institution many severely and profoundly handicapped children attend the classes. Today there are 110 pupils. 45 are bodily impaired besides being mentally retarded. Sixty of our children cannot talk at all. Thirty children know about ten words.

Julia S. Molloy, a leading professional in the USA describes the same situation. In 1961 she published a book with the optimistic title "Teaching the Retarded Child to Talk". In the introduction of the revised edition from 1975, she admitted that a lot of children just don't learn to speak. They need another system to make themselves understood. J. S. Molloy's new book is entitled: "Your Developmentally Retarded Child Can Communicate".

Because of this situation I became very much interested in speech development and in augmentative communication systems. From my own experience with a large number of mentally retarded pupils, I know that communication disorders very often lead to behavioural problems. Therefore, it is important to help the child find an effective way of communicating as early as possible.

There may be one or a combination of several causes for a child's not talking. J.S. Molloy and A. Matkin name five complex factors:

1. The child may have a sensory (input) problem.
 - This could be a partial or total hearing loss.
 - The child could be visually impaired or blind.
 - The child could have difficulty learning about the meaning of touch, pressure, or motion.
2. The child may have an emotional problem.
3. The child may have some damage, defects, or malformed parts of his mouth, very necessary for making the sounds that become words.
4. The child may have some damage in his brain.
 - Such damage interferes with understanding the messages coming into the brain.
 - The brain damage can interfere with attaching meaning to what is heard, seen, and touched.
 - The brain damage can interfere with selecting the right gesture or word, to express an idea.
5. The child may be developmentally delayed and not mature enough to start to talk. The mental growth may be slower than the physical growth, so he is mentally too young to understand and to speak as you would normally expect him to do.

I want to point out just one problem, mainly because I had been overlooking it myself in the past. You probably all know children, who are drooling constantly. They very often can only suck. It is impossible for them to eat solid foods. Even feeding with a spoon may be difficult, because they bite the spoon and you have a hard time getting it out of their mouth again.

Children who have such a history of eating problems have very frequently communication disorders, too. - Shane and Bashire (1980) note that persistent oral reflexes suggest an extremely poor prognosis for oral speech development.

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Before one can start with oral language, one has to try to desensify the region of the mouth. Massage of the face and the mouth has been helpful in many cases. If the child only drinks from a bottle, one has to introduce gradually solid foods. As long as the muscles of the mouth are unable to cope with solid foods they cannot produce the even more difficult movements which are necessary for speaking.

I am sorry that there is not enough time to go into further detail. A large number of profoundly handicapped children cannot learn to talk, but maybe they can learn to communicate in some other way.

2. Alternative Communication Systems.

In the past, two different methods have been used. Manual signs have been developed by and for deaf people. Persons with severe bodily impairments very often use pictures or symbols to satisfy their communicational needs. Both systems work with mentally retarded pupils, too.

2.1. Manual signs

The systems used by normal deaf persons usually are too difficult for people with a mental handicap. However there are several adaptations to the special needs of that group. You must not think that sign systems are difficult to learn.

In fact they have some advantages compared with speech:

- Signs do not require the same degree of development of the fine motor function as speech.
- Signs often mirror reality better than speech.
- Signs are received by our sight while speech is received by our hearing which means that signs are longer lasting, are easier to imitate and are easier to check and correct.

In some respects signs compare unfavourably with speech:

- You must see the person, you are communicating with.
- Signs are difficult to use, if your hands are busy with something else.

There is no need to fear that the use of signs will impede possible speech development. Different authors found that the opposite is true. Language development gets started easier if signs are used. In the USA and Great Britain one finds different systems like Amer-Ind, Singning Exact English and the Makaton Vocabulary, just to name some. In some European countries like the Netherlands and Germany people have just started to use sign languages as augmentative communication systems to a larger extent.

It is important that the teaching of sign communication does not become a separate subject, but a form of communication that has a practical use beyond the classroom. As a rule, all new signs are learned in a natural situation. It is therefore important that sign teaching is integrated into the teaching of other subjects. Besides it is extremely significant that the people closest to the pupil (the teachers, nursing staff, parents and school assistants) should understand and use signs.

It often happens that mentally retarded people understand signs (as they do speech) passively, but do not demonstrate the ability to imitate. Imitation is often a prelude to the spontaneous production of signs. The step from passive understanding to active use of signs may require an intermediate stage of active physical assistance, that is, the manipulation of the pupils' hands to help him form the sign. The amount of assistance can gradually be reduced and the next stage is that the student himself uses signs.

Amer-Ind (M. Skelly/L. Schinsky 1979) is a sign system with an extremely long tradition. The method is based on the Indians' "Hand Talk" which evolved many thousand of years ago during the great Indian migration from Asia to America. Each Indian tribe had its own language and a simple method of communication between the tribes was needed. Amer-Ind-Code is a thought related non-verbal method of communication intended for people who are unable to communicate in language. It is easily understandable, irrespective of a person's language, education and cultural background. Thus Amer-Ind is not a language, but a system of signals. It is a simple, concrete and logical system without words. There are 250 signals representing different concepts. These primarily express an activity. For example: Sleeping, lying down and resting are expressed by the same signal. Most of the signals are very closely related to natural body language and are frequently used by people without any handicaps at all to reinforce spoken language. Amer-Ind can be used at many different levels. Primary needs and desires can be expressed using just a small number of signals.

2.2. Pictures and Symbols.

All manual sign systems don't work if a person cannot use his hands, which is the case with many profoundly retarded children. For example, persons who suffer from cerebral palsy very often cannot use their hands. They may be able to point at something with one finger or with a head-pointer. In such cases pictures or symbols can be used to help those persons. Photographs, realistic drawings, pictograms and Bliss symbols represent different levels of abstraction. Each system has advantages and limitations, which shall be discussed now.

Photographs

In Parsons State School (Kansas, USA), a research project was working with photos. For example there is a photo of the toilet and the drinking fountain fastened at the classroom door. If a child wants to leave the room, he/she has to point at one of the pictures. Hopefully the child will learn that he has to be active in order to get what he wants. Usually profoundly retarded persons have to wait, until someone asks the right question. Initiating communication is what these children have to learn.

Realistic drawings

Photographs might be a good start. Nevertheless children must learn to generalize. Small children have to find out that the word cup does not only mean the one they drink from every day. They have to understand, that this word stands also for all other cups. In the same way children who communicate with the help of photographs, must learn that any picture of a cup can be used to get a drink in different surroundings and situations. Therefore using realistic drawings is a necessary step towards generalization.

The drawings one uses should have the following appearance:

- a. A clear contrast between the subject of the picture and the background.
- b. Clear lines and contours.
- c. They should be realistic.
- d. They should have a maximum redundancy.

a. Subject-Background.

The human brain is organized to make limited selection from multiple input of stimuli. However, people with symptoms of even minor brain-damage often have difficulties in concentrating on a single object if it is surrounded by other visual stimuli. Thus the most effective pictures are those with a uniform, uncluttered background.

b. Contours.

Pictures with sharp, clearly defined contours, which make the subject stand out, are more suitable than pictures with poor definition and undefined edges.

c. Realism.

Pictures that are realistic and show all the significant details are preferable. Three important factors which help to make the picture realistic are correct proportions, correct shadowing and the correct perspective.

d. Redundance.

This term means an excess of information. A simple sketch has a low redundancy factor. The viewer must have an inner picture to fill in the missing details. A picture with all the important details, which is very informative is therefore preferable when working with persons who are mentally retarded.

Very good material has been produced by Imaginart Press, Idyllwild/California. "Touch'n Talk" (C. Drolet 1983/1984) consists of about 550 pictures in black, gray and white. Individual communication boards can be easily set up since the pictures are available as stickers.

Pictograms.

They are another type of pictures which can be used in working with retarded children. Pictograms are very popular these days. We find them in sports, public restrooms etc. The symbols used are stylised but depict the real world. They are clearly drawn in white on a black background or in black on a white background.

Special PIC-Materials for teaching mentally retarded children have been developed by the George Reed Foundation for the Handicapped in Canada (G. Andén/J. Brodin 1983, p. 40-42). These materials consist of 400 symbols. They are arranged in concept groups to make the system easy to use. The pictures are also available as stickers. Thus the teacher can pick out the symbols he wants for individual children and arrange them as needed. Since these symbols are very clear they can be seen by children with impaired eyesight, too.

Bliss-Symbols.

This system is very abstract compared with drawings and pictograms. It is a graphic system created by C.K. Bliss between 1942 and 1965. Words and concepts are represented by logical pictures instead of letters.. The system was originally intended to be a means of communicating across language barriers - first published in the book "Semantography". During the past decade it has been used mostly as a communication aid for people with speech defects, namely cerebral palsy patients.

The Bliss system (B. Hehner ²1982) consists of a small number of basic sybols, some being clear depictions of objects, while others have a more logical-philosophical

content. By combining these symbols any word imaginable can be formed to constitute a language that can be used at various levels - from communication at the level of signal words to the use of complete grammatical structures. There is not enough time to go into further detail. Bliss is so complex that it cannot be used for very profoundly mentally retarded persons. Anyhow it is worthwhile to give this system a try. Some people appear to be profoundly retarded just because they have no means to communicate their ideas. If these men and women get a chance they sometimes turn out to be less retarded than expected. For them learning Bliss can mean a dramatic change of their whole life, since this system gives them the possibility to express themselves. All methods of augmentative communication I have mentioned so far, try to activate the child. Without the ability to use a sign system the child can only say "yes" and "no". Communication helps them to control their environment to a certain extent. Profoundly retarded children very often are so severely damaged that they don't grasp the idea of manual signs or pictures. This is especially a problem with deaf/blind children. So special procedures for these children had to be found.

3. A Model for Teaching the Basics of Communication.

Sally Rogow describes a system which makes it possible to teach deaf/blind children a basic understanding of communication. Several stages leading to symbolic language have been identified. The resonance phenomenon, to co-active movement, and the non-representational reference.

Since blind/deaf children cannot interact with the help of sight or sound, one has to start the dialogue through movement. The goal is to teach children that they can have some control over their world by using their body.

The Resonance Phenomenon.

The teacher begins by observing the child's gross body movements. For example she notices that the child likes to rock. She will then sit down with the child on her lap and begin the same rocking motion. After a while the teacher will stop, waiting for the child to show that he/she wants to continue. The child may push his head against the teacher's chest. This shows that he/she wants to go on with the movement.

If the child does not indicate that he wants to continue moving, the teacher might shape an appropriate gesture that is part of the movement. Different movements will require different gestures from the child. One gesture for rocking, one for swaying and another one for bouncing. By this time the child has his own communication system. He/she can let the teacher know how he wants to move by imitating a body movement.

The key to the resonance phenomenon level is that the gesture comes from the child's movements.

Co-active Movement.

Once the child has learned to use gestures for different bodily movements it is time to go on to the co-active level.. Co-active movement means moving through space with the pupil. For example, teacher and child walk the length of a floor mat together. Then they change to a crawl. This walk and crawl makes one co-active sequence. Each should be repeated three times. On the third try the teacher stops when it is time to change position. If the pupil acts in the correct way, the teacher knows that he did remember the second position.

In this process memory and anticipation can develop. Both are very important elements of language. The described exercise must be repeated very often. After some time, the child will get an idea of what is expected of him. By changing the sequences, the child will learn to anticipate changes within the sequence as well. While doing these exercises, the contact between child and teacher should be very close. They must co-act side by side.

After the child has learned to expect and to react to these changes, the teacher increases the distance between herself and the child. When the child is able to watch an entire sequence, the teacher can begin to introduce imitation. The child should watch and remember a sequence and then do it himself. Now he can start to imitate gross and fine bodily movements.

Non-Representational Reference.

The purpose of these activities is to help the child in understanding symbols. By co-active interventions the child develops body image and the ability to attend to another person.

First the teacher rubs her own arm. Then she will rub the child's arm. She has to repeat this very often on different parts of her body inviting the child to do the same. When the child understands that the teacher's body part can represent his own, a more abstract way of representation can be introduced. The teacher can move a cloth doll and ask the child to imitate those movements. Later she can use a paper doll or even a simple drawing for the same purpose.

When the child can imitate in the described way and also does well in the co-active exercises, we can introduce a sequence or calendar box. At this stage each activity of the day is represented by an object used in that lesson. For example, the cup represents a meal, the ball represents motor work, a wooden block means playtime etc. With this method even a deaf/blind child can get an idea of what to expect from his day in school. The child goes to his calendar box and feels the objects. He takes the first object out of the box, goes through the exercise and after he is finished goes back to the box to find out what comes next.

This method can be used very successfully to help severely and profoundly mentally retarded children to understand the basics of communication.

In my conclusion, if a child does not learn to talk we are no longer forced to consider her/him as a hopeless case. Through available options, she/he may learn to communicate in some other way. We must use all our knowledge and imagination to find ways for each individual child.

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